Electronic TUBES

6CF6 - 3CF6

PENTODE

DESCRIPTION AND RATING

The 6CF6 is a miniature sharp-cutoff pentode designed especially for use as a gain-controlled intermediate-frequency amplifier in television receivers. Except for the plate-current cutoff characteristic, the 6CF6 is identical to the 6CB6; and like that tube features high transconductance and low interelectrode capacitances. The tube is also useful as a radio-frequency amplifier in VHF television tuners.

The 3CF6 is identical to the 6CF6 except for heater ratings. The 3CF6 in addition incorporates a controlled heater warm-up characteristic which makes it especially suited for use in television receivers that employ 600-milliampere, series-connected heaters.

GENERAL

ELECTRICAL

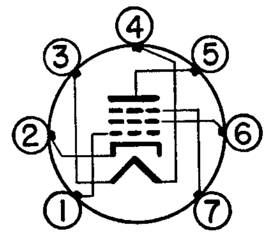
Cathode—Coated Unipotential	3CF6	6CF6	
Heater Voltage, AC or DC	3.15	6.3±10%	Volts
Heater Current	0.6±6%	0.3	Amperes
Heater Warm-up Time*	11	..	Seconds

Direct Interelectrode Capacitances	With Shield†	Without Shield	
Grid-Number 1 to Plate, maximum	0.015	0.025	μμf
Input	6.5	6.5	μμf
Output	3.0	2.0	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

BASING DIAGRAM

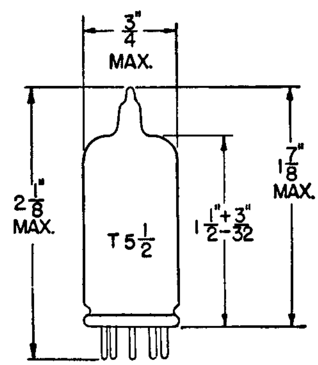


RETMA 7CM

TERMINAL CONNECTIONS

Pin 1—Grid Number 1
Pin 2—Cathode
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2 (Screen)
Pin 7—Internal Shield and Grid Number 3 (Suppressor)

PHYSICAL DIMENSIONS



RETMA 5-2

GENERAL ELECTRIC

Supersedes ET-T1311, dated 1-56

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage	330	Volts
Screen-Supply Voltage	330	Volts
Screen Voltage—See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	2.3	Watts
Screen Dissipation	0.55	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts

Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur for the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.

CHARACTERISTICS AND TYPICAL OPERATION

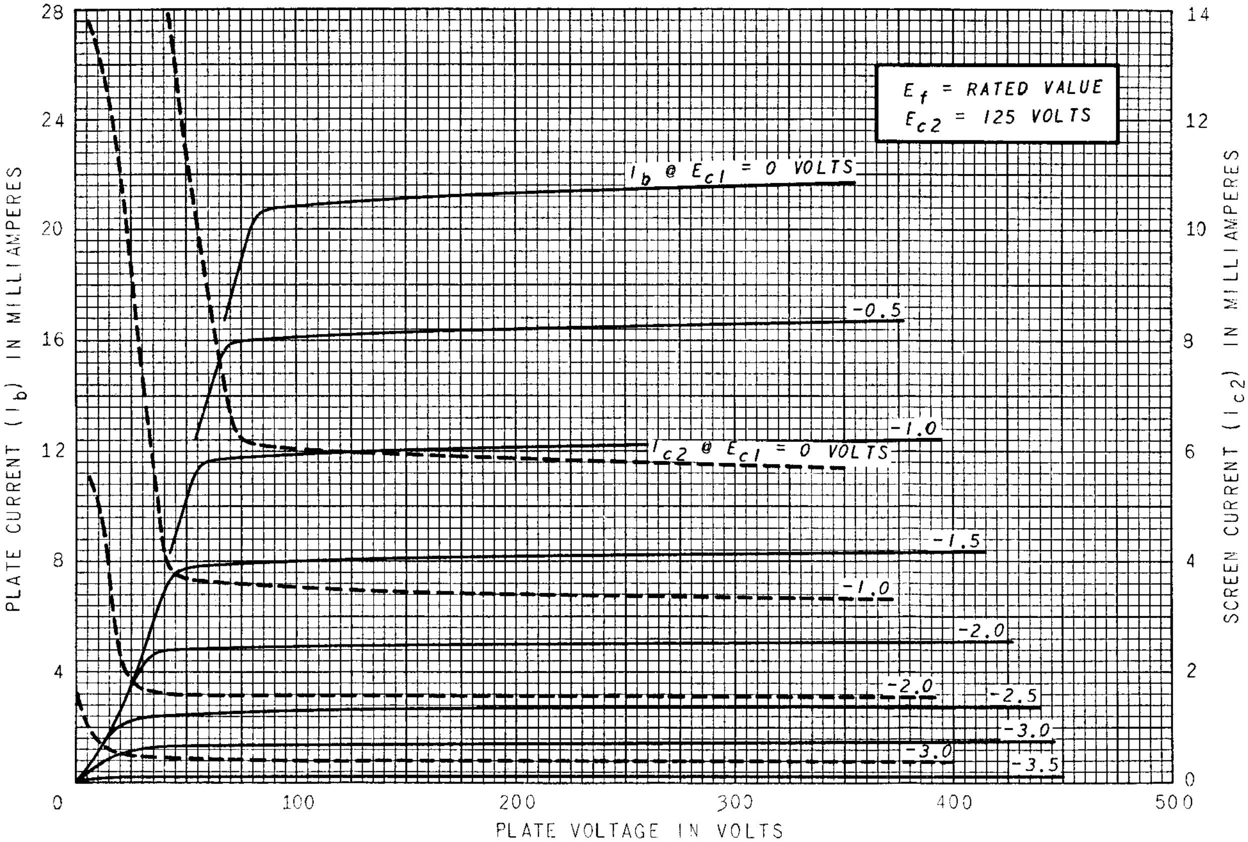
CLASS A_1 AMPLIFIER

Plate Voltage	125	125	Volts
Suppressor, Connected to Cathode at Socket			
Screen Voltage	125	125	Volts
Grid-Number 1 Voltage	−3.0	....	Volts
Cathode-Bias Resistor	....	56	Ohms
Plate Resistance, approximate	....	0.3	Megohms
Transconductance	....	7800	Micromhos
Plate Current	2.2	12.5	Milliamperes
Screen Current	....	3.7	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib—20 Microamperes	....	−6.0	Volts

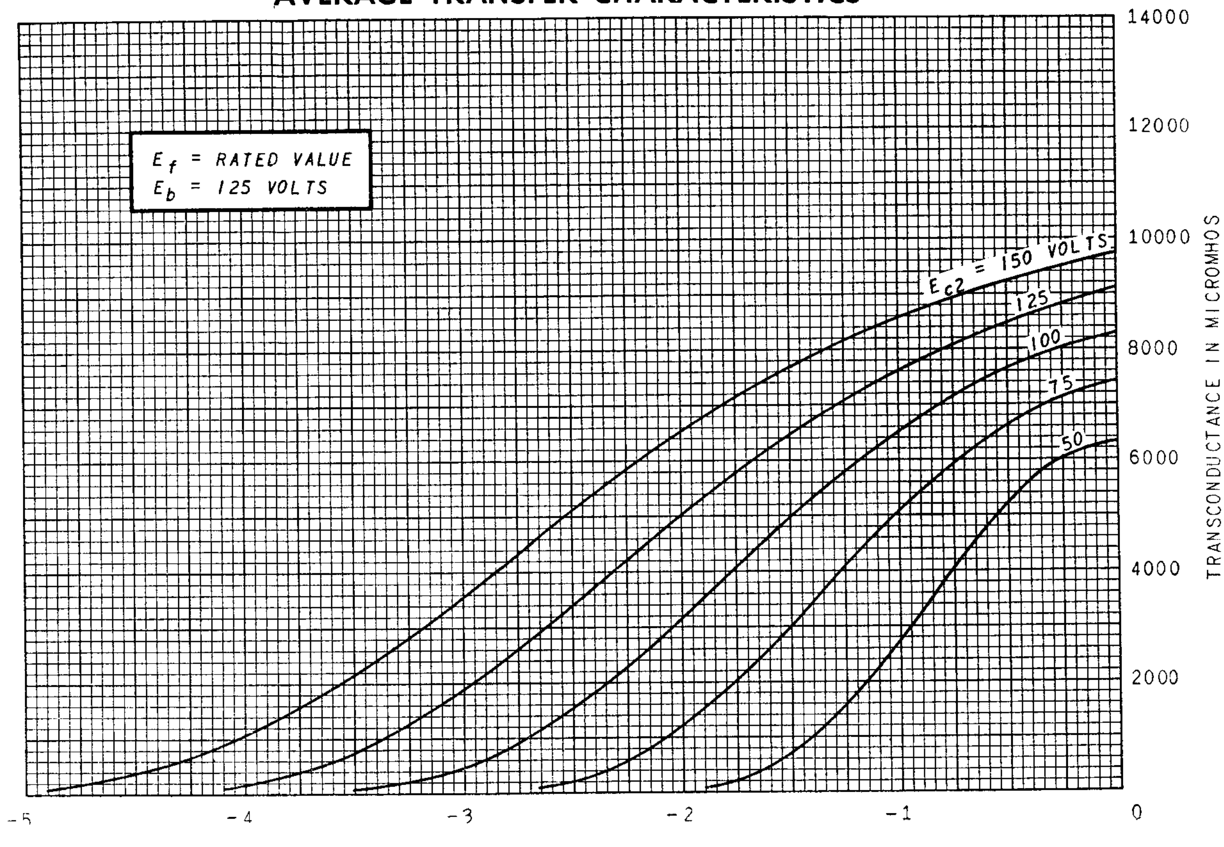
* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (RETMA 316) connected to pin 2.

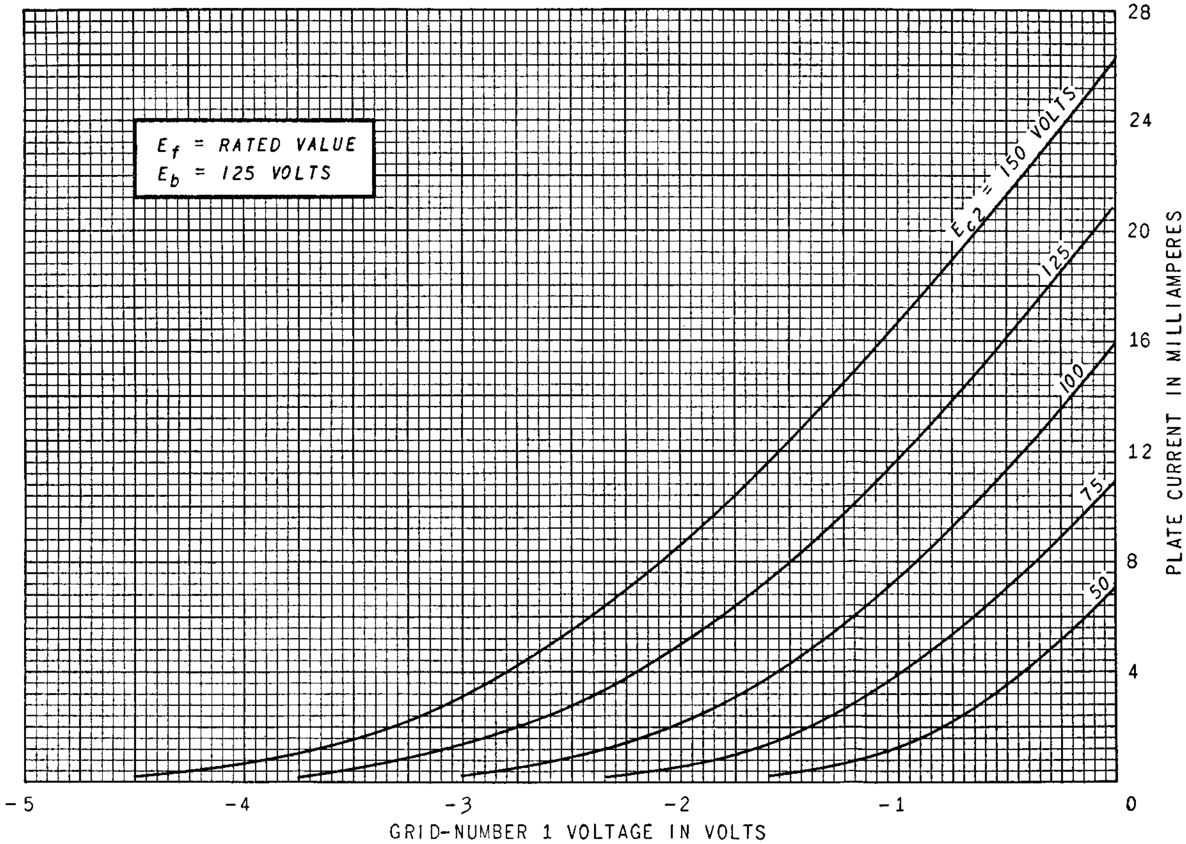
AVERAGE PLATE CHARACTERISTICS



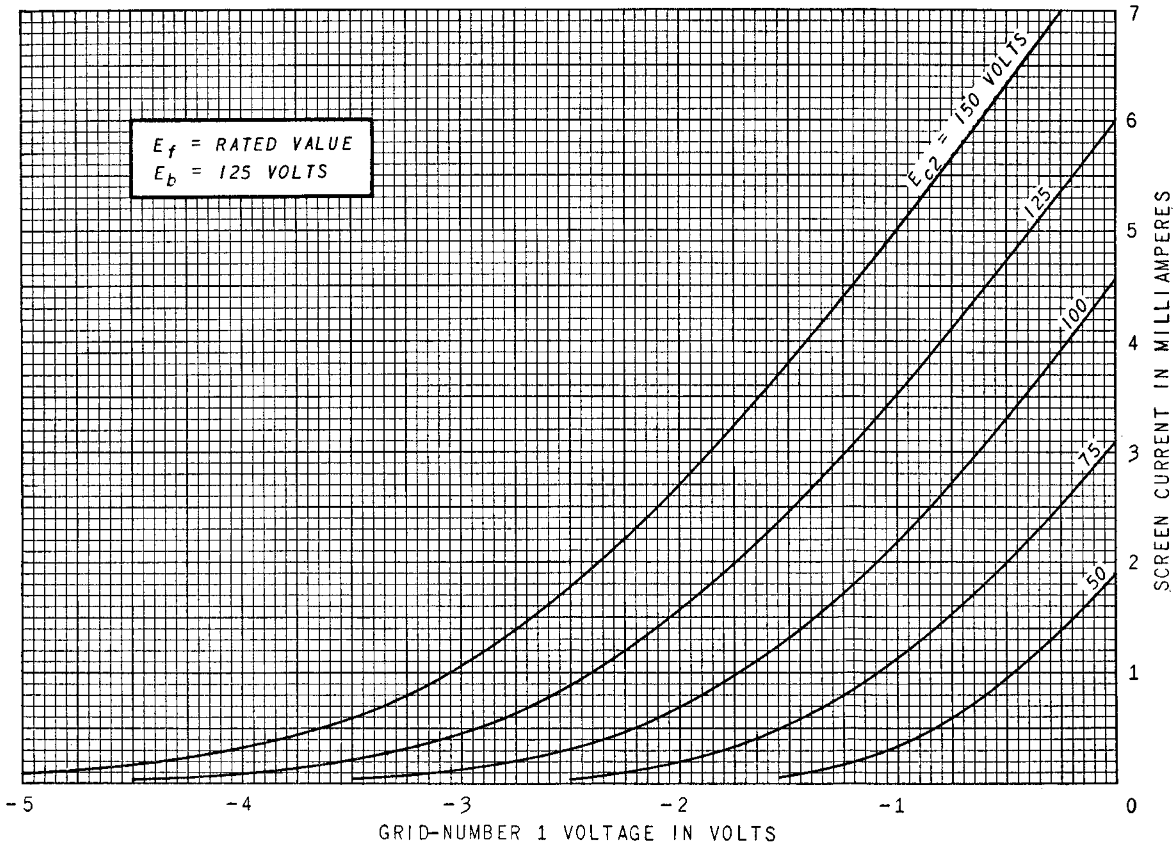
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



SCREEN RATING CHART

